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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/040,627	01/09/2002	Sigenobu Nakamura	P64591US2	3842

136 7590 07/08/2003

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WASHINGTON, DC 20004

EXAMINER
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TAMAI, KARL I

ART UNIT	PAPER NUMBER
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2834

DATE MAILED: 07/08/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

10/040,627

Applicant(s)

NAKAMURA ET AL.

Examiner

Tamai IE Karl

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 1-4, 6, and 27-37.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-4, 6 and 27-37 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-4, 6, and 27-37 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☒ The oath or declaration is objected to by the Examiner.

**Priority under 35 U.S.C. §§ 119 and 120**

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☒ Certified copies of the priority documents have been received in Application No. 07/203,972.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☒ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 1/9/02.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_

### ***Reissue Applications***

#### ***Oath/Declaration***

1. The reissue oath/declaration filed with this application is defective because none of the errors which are relied upon to support the reissue application are errors upon which a reissue can be based. See 37 CFR 1.175(a)(1) and MPEP § 1414. The errors set forth in the Oath include: claiming less than the patentee had the right to claim by virtue of not having included claims to: (1) a process: for producing a fixed ring of an antifriction bearing, (2) an antifriction bearing, and (3) an antifriction bearing device including an antifriction bearing, are not correctable by reissue. These are not errors correctable by reissue because the applicant abandoned these inventions with the parent application 07/203,972. A new reissue oath citing a valid error is required.
2. The examiner notes the original patent was surrendered in the parent application 08/869,844 on 12/19/01.

#### ***Claim Rejections - 35 USC § 251***

3. Claims 1-4, 6, and 27-37 are rejected as being based upon a defective reissue Oath under 35 U.S.C. 251 as set forth above. See 37 CFR 1.175.

The nature of the defects in the Oath is set forth in the discussion above in this Office action.

#### ***Claim Objections***

4. Claim 32 is objected to because of the following informalities: it depends from a non-existing claim. For the purposes of advancing prosecution on the merits the examiner will assume the claims depend from claim 31. Appropriate correction is required.

***Claim Rejections - 35 USC § 103***

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claims 1-4, 6, 27, 31-33, 36 and 37 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ogawa (US 4,517,466) and Steyr-Kaimler-Puch (Steyr)(Austrian Patent 362,807) and Okamoto. Ogawa teaches an alternator operating at 12000 rpm with a pair of bearings 3, 19, with a shaft a having a pulley 20. Ogawa does not teach the bearing having steel with 10% residual austenite at a depth of 0.1 mm. Steyr teaches steel ball bearing rings with 6% residual austenite at the surface portion (from the surface to 3 mm, which includes .1mm), where the ring is treated with liquid nitrogen (inherently subzero treatment). Steyr teaches the residual austenite being 8-10%, but does not teach the heat tempering between 150-400 degrees. Okamoto teaches the range of residual austenite being from 3.4-26%, which includes 6, 8, and 10% residual austenite, and tempering between 150-400 degrees. It would have been obvious to a person of ordinary skill in the art at the time of the invention to construct the alternator of Ogawa with the bearings of Steyr to reduce brittleness, and with the residual austenite extending up to 8 or 10% and tempering because Okamoto teaches the higher percentage enhance fatigue life of the bearing.

7. Claim 34 is rejected under 35 U.S.C. 103(a) as being unpatentable over Ogawa (US 4,517,466) and Steyr-Kaimler-Puch (Steyr)(Austrian Patent 362,807) and Okamoto, in further view of Yamada et al. (Yamada). Ogawa, Steyr, and Okamoto teach every aspect of the invention, except

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the steel has been tempered after subzero treatment. Okamoto teaches the bearing steel is tempered at 150-400 degrees after quenching. Yamada teaches that the steel in bearings is tempered after quenching or subzero treatment. It would have been obvious to a person skilled in the art at the time of the invention to construct the bearing of Ogawa, Steyr, and Okamoto with the steel being tempered at 170-230 because Yamada teaches it is common practice in the bearing art when forming residual austenite to act as a cushion in the bearing.

8. Claim 35 is rejected under 35 U.S.C. 103(a) as being unpatentable over Ogawa (US 4,517,466) and Steyr-Kaimler-Puch (Steyr)(Austrian Patent 362,807) and Okamoto, in further view of Stickels et al. (Stickels)(US 4,191,599). Ogawa, Steyr, and Okamoto teach every aspect of the invention, except the steel has been subjected to carburization hardening. Stickels teaches steel used in bearing which is carburized and tempered between 100-300 degrees. It would have been obvious to a person skilled in the art at the time of the invention to construct the bearing of Ogawa, Steyr, and Okamoto with the steel having carburization hardening because Stickels suggest the use of the carburized steel in bearings to reduce residual compressive stresses in the steel.

### ***Double Patenting***

9. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. See *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and, *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

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A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent is shown to be commonly owned with this application. See 37 CFR 1.130(b).

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

10. Claims 28-30 are rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 7 or 8 of U.S. Patent No. RE37,967 E in view of Yamada et al. (Yamada). RE 37,967 E claim 8 includes every limitation of pending claim 28, but the residual austenite being up to 3% at a depth of .1mm and without carburization or tempering. Yajima teaches that measuring at 0.1 mm below the surface provides a transition area of low and high hardness to allow good plastic deformity. It would have been obvious to a person skilled in the art at the time of the invention to construct the bearing of Claim 7 and 8 with the residual austenite limited to 3% at .1mm to allow good plastic deformity as taught by Yamada and without the carburization and tempering of claim 7 and 8 to reduce manufacturing cost.

### ***Response to Arguments***

11. Applicant's arguments with respect to the pending claims have been considered but are moot in view of the new grounds of rejection.

### ***Allowable Subject Matter***

12. Claims 28-30 would be allowable provided a terminal disclaimer is provided.

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13. The following is an examiner's statement of reasons for allowance: the prior art does not teach an alternator for vehicles having a rotary shaft with a rotor and pulley supported by a pair of ball bearings with fix and revolving races/rings. The drive pulley is mounted on one end of the shaft projecting outward from the frame. The alternator bearing adjacent the pulley having a fixed ring with bearing steel containing up to about 3% of residual austenite at a radial depth of 0.1 mm from the raceway of the ring, whereby the rolling fatigue life is improved by preventing occurrence of partial structural changes or minute cracks immediately under the raceway of the fixed ring caused by vibration or impact.

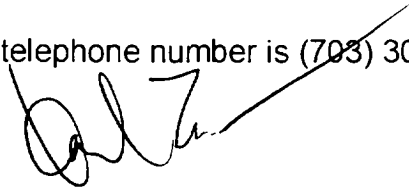
Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

14. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Karl I.E. Tamai whose telephone number is (703) 305-7066.

The examiner can be normally contacted on Monday through Friday from 8:00 am to 4:00 pm. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mr. Nestor Ramirez, can be reached at (703) 308-1371. The facsimile number for the Group is (703) 305-3432.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Group receptionist whose telephone number is (703) 308-0956.

Karl I Tamai  
PRIMARY PATENT EXAMINER  
July 3, 2003



KARL TAMAI  
PRIMARY EXAMINER